

AS/NZS 4968.2:2023



Australian/New Zealand Standard™

Heavy road vehicles — Mechanical coupling between articulated vehicle combinations

Part 2: Testing and installation of fifth wheel and associated equipment



AS/NZS 4968.2:2023

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- Australian Trucking Association
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- Department of Defence (Australian Government)
- Heavy Vehicle Engineers-Engineering New Zealand
- Heavy Vehicle Industry Australia
- Ia Ara Aotearoa Transporting New Zealand
- Municipal Works Operations Association
- National Heavy Vehicle Regulator
- New Zealand Heavy Haulage Association
- Queensland University of Technology
- Society of Automotive Engineers- Australasia
- Truck Industry Council
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Australian/New Zealand Standard™

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-053, Heavy Road Vehicles, to supersede AS/NZS 4968.2:2003.

The objective of this document is to provide performance requirements and recommendations for the installation of fifth wheel assemblies and to assist in the development of standard practice in this field.

This document forms part of the AS/NZS 4968 series on heavy road vehicles. A list of all parts in this series can be found in the Standards Australia online catalogue.

The major changes in this edition are as follows:

- (a) Updates to figures for clarity.
- (b) Revision of bolting requirements with emphasis on manufacturer's specification.
- (c) Clarification of design requirements.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance

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Introduction

This document correlates the dimensional requirements in International Standards for 50 mm and 90 mm kingpins with existing 75 mm kingpins used in Australia and New Zealand. The method of rating and selecting couplings in this document is based on the *D*-value method used in ISO 8717 and DIN 74081. The process of determining the required *D*-value ratings is outlined in this document.

In applying the *D*-value method, which is specified in kilonewtons to avoid confusion with the towed-load capability of the coupling, a series of equations are used to determine the required rated strength of the fifth wheel assembly. The equations used in this document were obtained from original experimental research conducted by the ARRB National Transport Research Organization. These equations differ from those used in the ISO and DIN standards in order to reflect Australian conditions. Whereas the equation for semi-trailers, i.e. for articulated vehicles with one trailer, is the same as in ISO and DIN documents, additional equations have been developed for multiple trailer combinations in accordance with Australian practice.

NOTES

Australian/New Zealand Standard

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1 Scope

This document sets out the performance requirements for the installation of fifth wheel assemblies used with 50 mm, 75 mm and 90 mm kingpins for articulated vehicle combinations used in heavy road vehicles, B-doubles and road trains in normal use.

The requirements cover dimensional standards for interchangeability, strength testing and rating.

NOTE 1 For additional information on kingpins and associated equipment, refer to AS/NZ 4968.3.

NOTE 2 Methods for determining *D*-value for fifth wheel assemblies are specified in AS/NZS 4968.1.

NOTE 3 Criteria for 50 mm, 75 mm and 90 mm kingpins are specified in AS/NZS 4968.3.

NOTE 4 Design criteria for trailer skid plates are specified in AS/NZS 4968.3.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitute requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 2174.1, *Articulated vehicles—Mechanical coupling between prime movers and semi-trailers—Interchangeability requirements, Part 1: Non-dedicated vehicle combinations*

AS 2174.2, *Articulated vehicles—Mechanical coupling between prime movers and semi-trailers—Interchangeability requirements, Part 2: Dedicated vehicle combinations*

AS/NZS 4968.1, *Heavy road vehicles—Mechanical coupling between articulated vehicle combinations, Part 1: Design criteria and selection requirements for fifth wheel, kingpin and associated equipment*

AS/NZS 4968.3, *Heavy road vehicles—Mechanical coupling between articulated vehicle combinations, Part 3: Kingpins and associated equipment*

ISO 8717, *Commercial road vehicles — Fifth wheel couplings — Strength tests*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

attachment bracket

angle bracket used to attach the *baseplate* (3.2), subchassis, or *sliding subassembly* (3.19) of the *fifth wheel assembly* (3.9) to the vehicle chassis

Note 1 to entry: For typical attachment sections, see [Figure 3.3](#)